

Herbal Medicine in Belarus

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by Jolie Lonner & Ivan Darashkevich

Belarus, also known as Byelorussia or "White Russia," is breaking into the free market—slowly. Previously part of Great Duchy Lithuania, Poland, Russia, and most recently, the former Soviet Union, Belarus is now 15 years into its independence. This small country, approximately the size of Kansas, borders Russia to the east, Poland to the west, and Ukraine to the south. Resembling Wisconsin in latitude and climate, its corn and wheat fields are surrounded by birch and spruce forests.

Citizens of Belarus are nature-loving people, who, like past generations, retain a strong tradition of gathering herbs, berries, and mushrooms from the forest. Consequently, it is particularly tragic that a people so rooted in their natural environment have suffered more than 60% of the high-level radioactive fallout from the 1986 explosion of the Chernobyl nuclear power plant. The most-contaminated areas have been closed off and the government closely monitors radiation in relation to all aspects of daily life, including the herb industry.

Since the breakup of the Soviet Union in the early 1990s, words like "socialism" have been traded for terms like "social oriented market economy." However, the Soviet influence remains strong with 80% of the people working for the state. Over 85% of families own their own flats (apartments), with an overwhelming majority having summer houses or *dachas* where they grow medicinal plants as well as fruits and vegetables for food. Traditionally, Belarusians employ medicinal herbs to treat most ailments. Herbal medicine is institutionalized and thoroughly regulated by the government. Phytomedicines are available exclusively through about 2500 pharmacies located throughout the country. Licensed herbal pharmacists with years of medical and herbal training staff many of the larger pharmacies. Herbal consultations are free, courtesy of the state.

Belarus follows the *Pharmacopoeia of the People's Republic of the Soviet Union*, 11th edition. Last issued in 1987, this pharmacopeia contains about 60 plant species and only these plants are permitted for use as commercial herbal medicines in Belarus. Many of the leading herbs in the American herb market

such as black cohosh (*Actaea racemosa* L., Ranunculaceae, syn. *Cimicifuga racemosa* [L.] Nutt) and goldenseal (*Hydrastis canadensis* L., Ranunculaceae) are not included in the Soviet Pharmacopoeia. If a pharmacy wishes to sell herbs not listed in the pharmacopeia, it must hire an herbal specialist, package the products according to government standards, and provide a separate room to sell the products. Because the government regulates alcoholic substances stringently, tinctures are produced solely by one state-owned enterprise. Only 10 tinctures are widely available from pharmacies throughout the country (see Table 1 on page 38).

According to the Belarus Herbal Producer and Processors Association, herbs accounted for 10% of all Belarusian pharmaceutical sales in 2002, up from 1% in 1999. Five major herb companies in Belarus collectively generate about 2 million (US) dollars in annual revenue from the sale of approximately 200 tons of processed material in the form of bulk tea, teas bags, tinctures, and tablets. The overwhelming majority of tablets and tinctures produced and sold in Belarus in 2002 were valerian preparations. Currently, a handful of Belarusian companies manufacture capsules and syrups in very small quantities. Domestic companies have yet to meet the country's herb demand with respect to quality and quantity, and consequently most products are imported from Russia and Ukraine.

Belarus, consistent with its position as an environmentally-minded nation, restricts harvest of sensitive species such as uva-ursi (*Arctostaphylos uva-ursi* [L.] Spreng, Ericaceae), lingonberry (*Vaccinium vitis-idaea* L, Ericaceae), and everlasting (*Helichrysum arenarium* [L.] Moench, Asteraceae). Additionally, Belarus is a party to the Convention on International Trade in Endangered Species (CITES).

While a significant portion of cultivated herbs reaching the market is grown by thousands of home farmers at their summer dachas, the bulk of raw cultivated product equaling an estimated 250 tons is produced on a single 600 hectare state-run farm. Additionally, about 20 state-licensed commercial farms contribute minimally to the market. Each licensed herb farm must consult a state-registered agronomist as well as an herbal pharmacist. Growing herbs in Belarus is heavily regulated and few if any chemicals are permitted for application to cultivated herbs.

In all steps of growing and processing, herbs are extensively tested by the State. Every shipment a processor purchases from an individual harvester or grower must be analyzed for radioactive contamination, heavy metals, chemical residue, moisture content, weed content (i.e., foreign plant material),

and microbiological properties (i.e., presence of microorganisms, such as mold and bacteria). This service is mandatory and provided for free by the State. After the herbs are cut and sifted, they are put through the same regimen of tests. In order to further track the process, each individual box of tea must identify the person responsible for packaging the product. BioTest, the country's largest private herb processor, is in the process of developing new tea blends; because all herb-based treatments are rigorously analyzed by the State, employing animal tests, clinical trials, and reference to compendial standards, the approval process for each formula takes about one year.

Belarus has one foot in the Soviet past and one foot in contemporary Western Europe, evidenced by the predominance of casinos juxtaposed with statues of Lenin. The uneasy balance between social needs and business is played out in all aspects of the society and economy. For example, BioTest experienced significant issues with quality control over raw materials because its buyer was on a three-year maternity leave, with pay, and Biotest was barred from filling her position for the entirety of her leave.

Table 1: Widely Available Herbal Tinctures in Belarus

<u>Common Name</u>	<u>Latin Binomial & Authority</u>	<u>Family</u>
Asian ginseng	<i>Panax ginseng</i> C.A.Meyer	Araliaceae
Calendula	<i>Calendula officinalis</i> L.	Asteraceae
Chamomile	<i>Matricaria recutita</i> L.	Asteraceae
Echinacea leaf & root	<i>Echinacea purpurea</i> (L.) Moench	Asteraceae
Eleuthero*	<i>Eleutherococcus senticosus</i> (Rupr.& Maxim.) Maxim.	Araliaceae
Motherwort	<i>Leonurus cardiaca</i> L.	Lamiaceae
Peppermint	<i>Mentha x piperita</i> L.	Lamiaceae
Ononis	<i>Ononis arvensis</i> L.	Fabaceae
valerian	<i>Valeriana officinalis</i> L.	Valerianaceae,
Yarrow	<i>Achillea millefolium</i> L.	Asteraceae

* formerly called “Siberian ginseng” in the U.S.

The Belarus Herbal Producer and Processors Association (BHPPA) was

founded in 1999 but is now defunct. While its mission was to meet business needs and satisfy state regulations, it failed in merging soviet models with the needs of private enterprises. Through the association, members pooled the costs of hiring an herbal pharmacist and an agronomist. The organization managed the supply of raw materials to processors, facilitated the distribution of products through a regional network of pharmacies, and negotiated with suppliers of agricultural inputs. The BHPPA acted as a liaison with the Ministries of Agriculture and Health. The association was started by the government primarily to help state-run collective farms increase production for state-run processors, and to that end they distributed about \$50,000 (US) in subsidies to state farms per year. The association's failure is partly a result of its inability to serve private herb manufacturers due to non-competitive pricing, a limited number of targeted herbs, and an inattention to quality. Like almost everything in Belarus, the herb market is slowly moving from a state-run model to a free-market model and the BHPPA did not adjust accordingly.

Belarus, with its long-standing reliance upon herbs, socialized medicine, and an administrative economy, provides a glimpse into another world of herbal medicine. Currently, Belarus values healthcare and safety over business interests, yet government regulation effectively limits alternative herbal remedies and local companies. Questions remain—what will be cut and sifted, what will be packaged and consumed, and by whom? How will the shift to a capitalist economy affect the herbal industry and the nation's healthcare as a whole? And finally, as business interests become a higher priority, will regulation of herbal quality and environmental sustainability give way? Ten years is a lifetime to the country of Belarus, and by the year 2015, the landscape of the herbal industry will surely be pruned and trained.

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